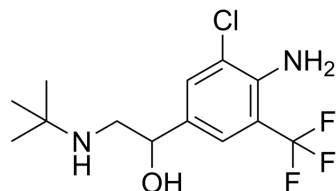


Mabuterol

Cat. No.:	HY-13338
CAS No.:	56341-08-3
Molecular Formula:	C ₁₃ H ₁₈ ClF ₃ N ₂ O
Molecular Weight:	310.74
Target:	Adrenergic Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Mabuterol is a selective and orally active beta-2 adrenergic receptor (ADRB2) agonist. Mabuterol inhibits the proliferation and suppresses the increase of intracellular Ca ²⁺ induced by PDGF-BB. Mabuterol suppresses the protein expressions of Drp-1, cyclinD1 and PCNA and enhanced the expression of Mfn-2 induced by PDGF-BB ^{[1][2]} .								
IC₅₀ & Target	Beta-2 adrenergic receptor								
In Vitro	<p>Mabuterol (10-60 μM; 48 h) inhibits the proliferation of ASMCs induced by PDGF-BB^[2].</p> <p>Mabuterol (50 μM; 1h) suppresses the increase of intracellular Ca²⁺ induced by PDGF-BB (25 ng/ml)^[2].</p> <p>Mabuterol (50 μM; 48 h) significantly suppresses the protein expressions of Drp-1, cyclinD1 and PCNA and enhanced the expression of Mfn-2 induced by PDGF-BB^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Proliferation Assay^[2]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>rat ASMCs^[2]</td> </tr> <tr> <td>Concentration:</td> <td>10, 20, 30, 40, 50, 60 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24, 48 h</td> </tr> <tr> <td>Result:</td> <td>Inhibited the proliferation of ASMCs induced by PDGF-BB (25 ng/ml) in a dose-dependent maner at 48 h.</td> </tr> </table>	Cell Line:	rat ASMCs ^[2]	Concentration:	10, 20, 30, 40, 50, 60 μM	Incubation Time:	24, 48 h	Result:	Inhibited the proliferation of ASMCs induced by PDGF-BB (25 ng/ml) in a dose-dependent maner at 48 h.
Cell Line:	rat ASMCs ^[2]								
Concentration:	10, 20, 30, 40, 50, 60 μM								
Incubation Time:	24, 48 h								
Result:	Inhibited the proliferation of ASMCs induced by PDGF-BB (25 ng/ml) in a dose-dependent maner at 48 h.								

REFERENCES

- [1]. Yamamoto I, et al. Enzyme immunoassay for mabuterol, a selective beta 2-adrenergic stimulant in the trachea. J Immunoassay. 1985;6(3):261-76.
- [2]. Yaru Gu, et al. Inhibitory effect of mabuterol on proliferation of rat ASMCs induced by PDGF-BB via regulating [Ca²⁺]_i and mitochondrial fission/fusion. Interactions, 2019, 307: 63-72.

Caution: Product has not been fully validated for medical applications. For research use only.

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